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DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

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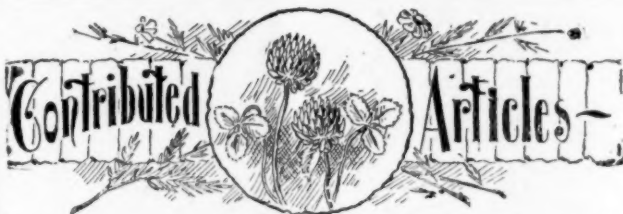
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No. 37.



A New Bee-Disease—Pickled Brood or White Fungus.

BY DR. WM. R. HOWARD.

My attention was called to this disease nearly two years ago. I had two colonies to die during the winter, and when examined in the spring, I found the combs very moldy, especially those containing pollen. These combs were given to other colonies, and everything went off nicely, till the brood was about ready to seal, when much of it was found to be dead; careful watch was kept, and it was noted that the dead brood did not decay like "foul brood." Again, much of that



Fig. 1.



Fig. 2.

Fig. 1—Bacillus alvei and other germs—600 diameters.
Fig. 2—Pollen-grains, etc.—600 diameters.
[Both Figures from the Author's "Foul Brood."]

which was sealed never hatched, and was found to be dead and shriveled, without becoming rotten. The season was a poor one, little honey coming in, the bees seemed discouraged, uneasy, and often the dead white larvæ would be carried out; on examining the combs the dying larvæ were noticed to be wriggling out of the cells, some were only half way out, but fell out while under observation.

The larvæ when dead have a swollen appearance, neither end touching the sides of the cell is a common position (Fig. 5, a). In some cases, when left 5 or 6 days, the brood settles down like "foul brood" (Fig. 5, b), and changes to a dark-brownish mass; which, on examination, is found to be watery, and not "ropy" like "foul brood;" entirely void of the offensive odor, in fact no odor at all.

A microscopical investigation showed, in addition to *Penicillium glaucum* (Fig. 1, d), other molds in the pollen and on the combs; from these and the dead brood was isolated as the cause of the trouble a species of *aspergillus*, a white fungus, or mold. Several experiments were made during the summer, which fully satisfied me that my conclusions were correct.

This suggested to my mind, that, perhaps, this was the kind of "foul brood," of which so many had written; the kind which had been treated by the *starvation method*, the *drug method* (?), and the kind which always disappears as soon as *fresh pollen* comes in; and possibly the kind mentioned by Mr. N. W. McLain (Author's "Foul Brood," page



Fig. 3.

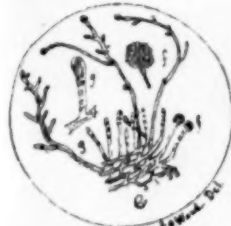


Fig. 4.

Fig. 3—Infected pollen—600 diameters. a, globular and polyhedral pollen-grains. b, resting spores found in bee-bread and in larvæ. c, growth 3 days' old, as found on proper culture media, also in the body of the larvæ. d, division of the resting spores, b, when growth first starts.

Fig. 4—The mature mold—600 diameters. e, the network of the base (mycelium) of the mold. f, the resting spores. g, the thread-like filament, running and branching in every direction, containing spores within the threads as well as outside.



Fig. 5.

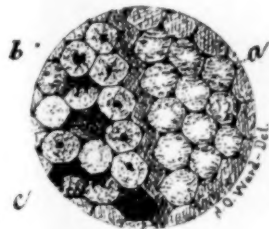


Fig. 6.

Fig. 5—Contrast between the White Fungus disease and Foul Brood—profile, natural size. a, dead or pickled brood from the white fungus. b, dead brood from foul brood.

Fig. 6—Difference between normal caps, or those over the white fungus, and foul brood—surface, natural size. a, white fungus, or normal. b, caps with the ragged hole near the center as found in foul brood. c, partially removed cap exposing mass within.

34), which he found to attack the brood when the first feeding of pollen takes place. This trouble has been mentioned by many writers in the bee-papers, and many questions propounded by my correspondents regarding its nature and cure.

I have recommended, with successful results, placing the bees on full sheets of foundation, confining them for three days (giving them plenty of water) in order to consume all of the infected material, that none of it might be deposited in the new combs to be covered with new pollen or honey. The disease is infectious and may be carried by robbers having access to infected combs.

Pollen is a favorable medium, and the warm, damp, dark cellars, in which bees are wintered, in the Northern climate, give the proper conditions for the growth, and moldy combs result.

When pollen is added to the liquid food, which occurs late in larval life, there being a sweet semi-liquid mixture, the proper medium is present for the growth of the fungus, which at once starts a ferment in the alimentary canal of the larva, breaking through and permeating the entire liquids of the body, giving an acid reaction (chemical analysis proves the presence of acetic acid, or vinegar). This growth takes place generally within three days, the brood dies slowly, keeping up for some time a wriggling motion.

When no more food (sweets) is taken, the medium is soon exhausted and the fungus ceases to grow; the acid condition of the brood prevents the growth of putrefactive germs from the air, so that decomposition does not take place, hence no foul odor, the brood is *pickled in its own liquids*.

It has been the earnest endeavor of the writer to throw as much light on the natural history of this disease as possible with the facts before him; and to give it in plain language so that all may understand that read; hoping that those who are in trouble may devise some practical means of escape.

Mr. J. W. Stahmann, of Weaver, Minn., has just sent combs containing specimens of this disease, from which the drawings (Figs. 3 and 4) were made. He has been asked to contribute his experience with this disease to the readers of the American Bee Journal.

Below will be found the differential diagnosis of this disease and that of "foul brood:"

FOUL BROOD—CAUSE, *Bacillus Alvei*.

"Introduced from without to the healthy brood; the food provided by the nurse-bees, being a nutrient medium (proper soil for growth,) active growth at once takes place; poisonous compounds result, and death of the brood may result from these, the germs themselves, or their combined action." (Author's "Foul Brood," page 10.)

SYMPTOMS AND COURSE.—Brood is attacked at all ages from two or three days up to after being sealed. McEvoy says, "More brood dies of foul brood at the ages of 6, 7, 8 and 9 days than at any other age." (Author's "Foul Brood," page 46.) As much brood dies before the feeding of pollen begins as afterward. The dead brood is attacked by the putrefactive germs from the atmosphere, causing rapid decomposition, producing a ropy, brownish-black mass, and giving off a very foul odor. The cap in sealed brood is nearly always ruptured near the center (Fig. 6, b, c) by the accumulation of the foul gases generated within the cell; the rotten brood lies in a shapeless mass at the lower side of the cell. (Fig. 5, b.) When the mass dries it becomes harder and tougher than the wax (Prop. IV, Author's "Foul Brood," page 18), and cannot be detached, without injury to the comb.

When *bacillus alvei* (Fig. 1, a, b, c) is planted on nutrient gelatine, or a cooked potato, and placed in a moist chamber, growth at once takes place, forming a viscid, ropy liquid, slightly alkaline in reaction, giving off an offensive odor resembling that of "foul brood," and when exposed to the air, putrefactive germs attack the culture and soon over-run it.

WHITE FUNGUS—*Aspergillus Pollini*.

A mold introduced to a healthy colony from moldy combs or pollen (Fig. 3), which when mixed with the liquid food

composed mostly of honey and water, a ferment takes place and vinegar is formed in the stomach of the bee, the combined action of the mold and the ferment destroys the life, as above mentioned.

SYMPTOMS AND COURSE.—Brood is attacked only after the pollen is mixed with the liquid food, and dies just before arriving at the pupa stage, generally; sometimes passes into this stage and is sealed. No brood dies before the age of feeding mixed food arrives. The dead brood being in an acid or pickled condition, it is not attacked by the putrefactive germs from the atmosphere. No decomposition takes place, there is a watery (not ropy) condition of the brood when broken up, sometimes of a light-brown color, generally white, giving off *no odor*. The cap in sealed brood is not ruptured (Fig. 6, a). The dead brood has a swollen appearance (Fig. 5, a), and when dry does not stick to the comb or cell, and often does not lose its shape.

When *Aspergillus pollini* (Figs. 3 and 4) is planted with the combs in water, or the brood on plates partially submerged in sweetened water mixed with starch or wheat-bran, placed in a moist chamber in a dark room, growth at once takes place, and in 3 to 4 days covers the medium, converting it into an acid solution. When exposed to the air putrefactive germs do not attack the culture. Ft. Worth, Tex.

[Dr. Howard's book on "Foul Brood" we mail for 25 cents, or club it with the Bee Journal for a year—both together, for \$1.10. Every bee-keeper ought to have that little book.

For further reference to "Pickled Brood," see editorial on page 584.—EDITOR.]



Shipping Comb Honey Safely by Freight.

BY W. Z. HUTCHINSON.

The season for the shipping of comb honey is upon us, and great is the sorrow when the honey reaches the market in a broken condition. Much can be done by the shipper to avert this dreaded catastrophe. The advice given in the following editorial copied from the Pacific Bee Journal, is most excellent:

"The loss of our beautiful comb honey by breakage in shipment and the ruined condition of the home market caused by the damaged condition of our honey-packages has led me to try to better the method of handling this tender article, comb honey. I have often witnessed the forced sale of damaged honey, and in almost every store that I visited last summer I found a quantity of this leaky, case-daubed comb honey.

"Brother bee-keepers, arouse yourselves and put up your honey right. The first step is to produce the article in correct shape by having the combs built solid to all four sides of the section, and to do this to a certainty, two strips of starters must be used. One large strip at the top of the section and a small one at the bottom, perfectly fastened to the section, and there to stay. The Daisy foundation fastener is the best machine for fastening foundation in sections that has yet come to my notice.

"Secondly, to get evenly built combs, we should use the slotted-wood sawed separators, and then the cappings of the honey will not scrape off in shipping. I hope that there is no such thing as the packing of broken honey, but I am oftentimes tempted to think there is, for the reason that there is so much damaged honey on the market.

"Extreme care should be exercised in packing, to see that the honey is all of a thick, ripe grade, in perfect condition, and strongly built. If there is any unfit to ship long distances, use it at home, put it back in the hive, or dispose of it in the home market. Don't allow it to get mixed with the long-distance honey, for this damaged honey means low prices for all, and the ultimate refusal of the dealers to handle it.

"To gain the best results in shipping comb honey, it should be well cured, and to gain this end it may be kept in a very warm, dry, well-ventilated room for at least four weeks. The temperature nearest 100° will do the best curing.

"Shipping-crates should be made to hold four or five 20-pound cases to insure the most care in handling by freightmen. The practice of shipping comb honey in single 24-

pound cases, that can be easily thrown about, is a mistake, especially in small or less than carload shipments. The crate is made much the style of a one-piece section crate, of light lumber, but in such a way as to be strongly nailed and large enough to allow of packing of straw or shavings, which will surely give a spring jar instead of a thump when the case is handled. The head of the crate is made of two thick boards just the size of the lid of the honey-case. If you use a 24-pound case, which shows four sections through the glass, the size of these head-boards are 12 by 18 inches and one inch thick. One of these boards is laid on the floor and on it is placed a layer of straw, then five 24-pound cases of comb honey are set on it and the other head-board goes on top of all, with a little packing underneath. Now the thin crate strips are nailed to the head-boards at each of the four corners, making your crate complete.

"The crate is then marked with a request to place it lengthwise in the car. Now this crate gets a better handling on account of its size and weight, because it is too heavy for one man to lift, and is either handled by two men or by hand-truck."

I think that the editor of the Pacific Bee Journal is correct in thinking that much honey is shipped that is not in a fit condition to stand a long shipment, and that it better be sold in the home market. I would use a larger crate than he does, one that would require the strength of two men to lift and handle it. If handles are furnished they will be used. A crate holding about 200 pounds is the size I have used, and would ask for nothing better. It is possible that a smaller crate would work just as well, but there is nothing like actual experience.—Review.



The Proper Amount of Stores for Winter.

BY G. M. DOOLITTLE.

I have concluded to take the following from a correspondent's letter, which has just come to hand, as a text for an article in the American Bee Journal, as it comes at a time when we should be preparing our bees for winter.

"How much food does each colony of bees require, in order to winter successfully? I notice that some claim that good, strong colonies can be wintered with as little as from 6 to 10 pounds, while some of the 'doctors' in bee-culture say that 50 pounds in a hive is better than anything less. Which am I to believe? and what am I to understand by this great difference of opinion?"

The above questions remind me of my early days in bee-keeping, and how perplexed I used to be to know what was right and what was wrong, in that which I read in the different papers on bees. These things are often very confusing to a beginner, and I do not wonder at it; but, as a rule we can find grounds for charity when we come to understand that the writer of an article in any of our periodicals cannot well go into all of the minutia connected with his or her subject, because it would make too long an article for one number or issue of such periodical; and "continued stories" do not seem to be just the thing for a bee-paper. That none need be thus confused, my advice to all beginners would be, that they purchase one or more of our valuable books on bee-culture, and in these they will find the most, if not all they want to know about spoken of at length, and the reason for the writer's opinion given, so that they can form an opinion at once whether the writer's views are correct or not. With these words of explanation, I will proceed to answer as best I can.

While I do not think that 50 pounds of honey should be required to winter a colony of bees, under any condition, yet the amount required depends very largely upon the location, whether the bees are wintered in the cellar or on the summer stand, and upon what is meant by "winter." It will be plain to all, that more stores would be required to winter a colony where winter held its sway from the middle of October to the middle of April, as it does in some of our most extreme North-

ern localities where bees are kept, then would be required in some Southern localities where winter does not last over two months. If I understand aright those writers who claim only a small amount of honey for winter, their idea is to give only enough honey during the winter months *proper* to supply the "fuel" required to keep the colony warm, and not to supply them food for brood-rearing in the spring. They argue that this scanty supply of food tends to make the bees retrench, and so they would use this supply *only* for fuel, and thus early brood-rearing, which is considered by many to be of no advantage, would be done away with, thus wintering our bees at little cost, and at the same time place them in a condition which is most conducive to their prosperity. But these persons did not calculate that the supply given them in the fall was to last them till honey was gotten from the fields in the spring, for they generally tell us that they have a supply reserved, to fall back on when the supply given in the fall becomes exhausted.

The only thing which I see against this "short-store" plan, as put forth by its advocates, is, that in our locality the bees might run out of supplies at a time when it would be impossible, on account of protracted cold, to supply their wants, thus increasing the probability of loss to those who are a little inclined to be careless with their bees.

Years ago, when I first began to keep bees, I thought that each colony wintered on the summer stand should have at least 30 pounds of honey to carry them from the first of October to the first of May; but after repeated trials I am fully satisfied that 20 pounds is just as good as 30, and I find that not one colony in 25 will consume 15 pounds during this time. The only reason for giving the 20 pounds instead of 15, lies in the fact that the bees will retrench when their stores are becoming low, just as the advocates of the scant-store plan tell us; and if this retrenching comes when the bees ought to be rearing brood in the spring, then we are losing largely by not having honey enough in the hive to keep brood-rearing prospering as it should.

I claim that all colonies wintered on the summer stands should have at least 10 pounds of honey in their hives the middle of April, in this locality, to give them the confidence they need to start out aright for the season; for with this amount of stores they will not feel the need of retrenching, but will push brood-rearing on rapidly. If they can be wintered on five pounds up to this time, so much the better; but, if at this time they do not have plenty of honey it should be supplied to them in some shape.

For cellar-wintering I allow five pounds less honey than for out-door wintering, finding that, as a rule, $1\frac{1}{2}$ pounds of stores per month is the average amount consumed by the bees while in the cellar.

Now where we feed our bees, no matter how done, I find that it can be done to better advantage in the spring than in the fall, for the bees will go to brood-rearing with renewed vigor where fed; and for this reason I would say, give the bees only enough to safely carry them through to May, then supply their wants by feeding the amount you would otherwise have given them in the fall. The amount which I think right in this locality, I have given above.

In feeding in the spring, care should be used not to feed so plentifully that the combs will be filled with the feed instead of with brood, for it is brood we are after at this time of the year, not stores.

Borodino, N. Y.



The McEvoy Foul Brood Treatment is given in Dr. Howard's pamphlet on "Foul Brood; Its Natural History and Rational Treatment." It is the latest publication on the subject, and should be in the hands of every bee-keeper. Price, 25 cents; or clubbed with the Bee Journal for one year—both for \$1.10.

The Flat-a-Top Comb Honey Super System.

BY S. A. DEACON.

DR. MILLER:—I believe that some difference of opinion exists between Mr. E. R. Root and yourself, concerning the fixing up of sections in the supers. You favor the T tin rest; Mr. Root the section-holder. In an eager desire for improving our fixtures, and for facilitating our operations, it has always seemed to me that we show too much proneness to renounce simple, though heretofore perfectly satisfactory devices, for something more complicated, and too frequently overshoot the mark; it seems to be in the nature of most of us to be always desirous of exercising and exhibiting our ingenuity in connection with our pursuit. Some new devices do certainly "catch on" at least for a time; the majority of the fraternity that is to say, if the new device has any merit in it at all) adopt it, and perhaps like it immensely for a time, till objections to it, one by one, on this point or on that, manifest themselves, and in the end the pile of obsolete bee-keeping furniture in the backyard grows sensibly bigger; the whim for trying something new has been indulged, and without venting vain regrets on the loss of time and cash expended on its indulgence, we gladly return to the more simple old methods, and with a mind more appreciative of their efficiency than we had when, in our conceit and desire for fame, we contemptuously turned our back upon them. Am I not right? Let me give one instance, in my own experience, and in connection with this matter of fixing sections in the supers.

Like most beginners, I was decidedly ardent, sanguine, and enthusiastic. I made my own hives, and then ordered some thousands of 2-inch sections. But my own made hives were far from satisfactory, so hearing of the dovetailed hive and its very moderate cost, I decided to drop amateur carpentering, and so ordered a lot of these. From various causes, drouthy and otherwise, my 2-inch sections remained for a deplorably long time unpacked. One fine day it dawned on me that the dovetailed hives only accommodate 1½-inch sections. Here was a dilemma! With very slender means I could not afford to waste my 2-inch ones, so I boldly determined to cut them down. Reducing their general width by ½ inch with a plane was easy work enough, but this narrowed the slots, and after rasping and cutting some 300 of these open with a knife, I gave the task up in despair, and recklessly ordered some thousands of sections to fit the section-holders, i. e., 1½ inch, and relegated the now useless 2-inch ones to the lumber loft.

As I and my bees were kept in idleness for months (waiting not for "the clouds to roll by," but for them to roll up), after these narrower sections reached me, I had nothing much to do beyond studying the theoretical part of the business in which I had so enthusiastically embarked, and I had not gotten very far with my books and papers ere I made the discovery that wide sections were quite disapproved by the more experienced old hands, and that no sensible bee-keeper should ever think of using sections wider than "7 to the foot." Of course! I saw it at once; a section full of honey is a section full of honey, and will fetch about one price whether it holds 13 ounces or 16. So having still a few dollars left, and fully seeing the advantages to be derived by the bee-keeper from mulcting the honey-consuming portion of the public of two or three ounces per section, I at once (quite regardless of the rather important fact that the section-holders would not accommodate them) sent off an order for several thousand sections "7 to the foot." Only when I came to fit them in the "holders" did it occur to me that I had again made a donkey of myself, and with rueful face I saw my little capital diminishing, and this new lot of sections sent to keep company with their bigger brothers in the lumber loft, and where they would about average the right width, 1½, though that didn't help me much.

When at last the clouds did roll up, and the longest drouth known to the oldest man began to look like becoming a memory, and my resources were so attenuated as to render the purchase of more sections (to fit these wretched section-holders, and commensurate with the expected honey-flow) quite an impossibility, I devoted many long hours and sleepless nights trying to devise some plan whereby, having only the "holders" for 1½ inch sections, I might utilize these thousands of obsolete 2-inch and much belauded 7-to-the-foot ones. I once thought I had solved the matter, when I read your statement that the T rest had, amongst other advantages over the "holder"—that with the T rest any size of section could be used. I moodily opened my purse and took stock of the few coins hiding about in its folds and corners, and was on the eve of shaking them all out and investing them in T tin rests, when it struck me that Root's supers "weren't built that way," and that if I substituted T tin rests for holders I should have to cut them down half an inch or more, and so spoil them for extracting some day with the shallow frames; so I was foiled again!

I then started wondering in what way sections were fixed in supers before the restless ingenuity of the honey-producer conceived these tin rests and holders. I called to mind certain wood-cuts of sections in crates, both in books and in illustrated price catalogues. A pile of these was soon before me, and my joy was unbounded, and my troubles at an end, when my gaze rested on a wood-cut in "A Modern Bee-Farm," by S. Simmins—of "Simmins' Simple Rack;" and when I read on page 90, as follows—"This rack is very simple, has no bottom rests at all, and allows the sections to stand close upon the frames, and upon each other. Nothing can excel the simplicity, and, at the same time, the efficiency of this arrangement. Practice absolutely confirms the fact that by dispensing with these useless passages, the surplus stored above the brood-nest is largely augmented"—"Eureka!" I cried; and now 2-inch, 1½ and 7-to-the-foot are all ready in these simple racks for the coming flow; and I don't care a two-penny bit if I never see a holder or a tin rest again—I've no use for them myself.

I must tell you, though, that I didn't make my racks quite as shown in Simmins' sketch. I have the presumption to think that I very decidedly improved on Mr. Simmins' plan. What I did (and, with your approval, would advise others to do, who wish to try various widths of sections, as also to test the correctness of Mr. Simmins' assertion about more honey being gotten by placing the sections right flat on top of the brood-frames, and the next tier right flat on top of that)—I say what I did was this: I made—let us call it a box without top or bottom; it takes just 3 sections crosswise (i. e., 12¾ inches wide, inside measurement), and 19¾ inches long—also inside measurement. Its height is just that of the sections—4¼ inches. The ends are of ½-inch deal, and the sides ¾, and it weighs—nothing—or nothing to speak of. One end-piece has two thumb-screws. (One can buy a "screw-box" for a dollar, and make one's own screws—they often come in wonderfully handy.)

This rack holds 33 7-to-the-foot sections, and a ¾-inch follower, against which the screws work, making everything as taut and compact as you like, and you can fill it with any width of section you've a mind to. It costs about 3 or 4 cents for lumber and nails. To fill it, screw up, and then to handle it, is quite a pleasure, amounting almost to fascination, so light, snug, handy and taut does it feel.

But now, Doctor, I want to know what you have to say about this "flat-a-top" system, this "no spaces" system—i. e., no spaces or bee-way (which I have never as yet found in the insects' natural habitat—the hollow oak-tree) between the brood and honey, and between tier and tier of sections, all of which is quite opposed to Nature. Such a rack just fits the 8-frame dovetailed hive.

Now, why couldn't honey-producers have been content with this simple style of section-rack, but must needs go complicating matters with these holders and tin T rests, and what not, until it has become almost as easy to acquire a thorough knowledge of the anatomy of the human subject as that of the multifarious parts of the present-day domicile of the busy bee.

Bear in mind that in this "flat-a-top" rack system, the lid also fits plump down on top of the upper tier of sections. Now must there, in your opinion, be an air-space between the top tier of sections and cover? If so, why so?

South Africa.

[The foregoing letter to Dr. Miller was written some months ago, and should have appeared before, but somehow it was overlooked among other manuscripts in this office. Here is Dr. Miller's reply to Mr. Deacon's letter:—EDITOR.]

Mr. Editor, I'm very glad to give my opinions, so far as I have any, upon the points mentioned in Mr. Deacon's very interesting letter. If he had been present when I read it, I'm afraid he would have thought I wasn't very sympathetic, but as he was away off in Africa, where he couldn't hear me, I took the privilege of laughing heartily over his tribulations, or perhaps more properly at his way of relating them.

With regard to the general accusation as to the desire to invent and adopt something new just because it is new, or of one's own invention, I may say that the T super is not an invention of mine, and that I have adhered to it without change some 12 years. When I find something enough better to warrant a change, I may change, but it will be only after thorough trial.

With regard to the section-rack you describe, Mr. Deacon, you set me an ungracious task to give an opinion about it, well knowing something about the feeling that attaches to an article one has settled down upon as all right, especially after one has added to it one's own "improvements." So I'll go at it carefully and say what I say *gradually*.

The rack you mention is an excellent thing, a thing well calculated to fill one's heart with delight—and the delight that a bee-keeper feels in new and improved appliances can only be fully understood by him who has experienced it—I say, the rack is an excellent thing, and a delight as compared with the old way of brimstoning the bees to get the honey.

And yet many a good thing has objectionable points, and one trouble with this simple rack is that when one part sits directly upon another without any bee-space between, there is some danger of killing bees, so some bee-keepers would prefer another kind of super. Indeed, after you had left brimstoning the bees and had for a time manipulated these racks you would take great pleasure in inventing an arrangement by which the sections would be safely held at a proper distance from the top-bars and from each other. Although I have much respect for the opinions of Mr. Simmins, I don't believe many practical bee-keepers could be induced to use such racks.

"Continuous passage-ways" had, a few years ago, something of a run in this country among a few, but nowadays no one says anything about them, and they seem to have fallen into disuse. It sounds very well to say that with continuous passage-ways the bees going directly from one part to another, they will do more and better work than where they have a lot of vacant space to cross, but in actual practice the bees don't seem to show any difference. Indeed, I've had them work across a space of an inch and a half of wood and air with apparently as good results as if no such space were present. Just think a minute. A certain number of field-workers bring in a certain amount of nectar in a day. Will that be increased or diminished because the house-keepers must carry it half an inch farther?

Your new machinery works to perfection, charmingly—when no bees or bee-glue are in the case. In practical use with the bees it's quite another thing. You'll find it a slow

job to place a rack of sections on the top-bars or on another rack without killing bees. Theoretically, there's no place for bee-glue when one surface sits directly on another. Practically, there will be a lot of it on all edges, corners and cracks. For there will be plenty of cracks. You can't fill up a rack of sections so true and even that it will sit on another with not the least space between at any point. And the bees will find and fill a space that you may not have noticed. Then when you have all screwed up just right with your thumb-screws, you'll find that by shrinking or swelling sometimes the sections will drop out, and sometimes the thumb-screws can hardly be worked because everything is so tight.

On the whole, the best thing is to use such racks for kindling wood, and get a decent super that will always work right, even if it does cost a little more. And don't think of getting along without a full space for bees between sections and cover. The worst gluing I ever had on top of sections was when I had a cloth fitting close down on the sections. A board wouldn't allow so much gluing as a cloth, but it would kill more bees.

C. C. MILLER.

Questions AND Answers

CONDUCTED BY

DR. C. C. MILLER, MARENGO, ILL.

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

Carrying Bees Out of the Hive.

I have 70 colonies of bees, and quite a large number are carrying off bees from the hive. I cannot see anything wrong with those they carry out. I have seen them carrying out some before, but never to the extent they are at now. What is the cause, and what can I do about it? W. H. F.
Lake City, Mo., Aug. 14.

ANSWER.—I'm sorry to say that not only am I ignorant as to what ails the bees, but if I did know I don't know any remedy. The only thing that I know of in which bees are likely to carry off from the hive of their sisters is bee-paralysis, and as yet no one seems to have found a remedy. But with paralysis the bees have a black and shiny appearance, and you say you cannot see anything wrong with those carried out, so I suppose you mean they are fully grown bees. In starvation the bees may carry out brood, but that's a different thing, as is also the carrying out of drone-brood at the time drones are driven out. [See "Bee-Paralysis," page 585.—ED.]

Frame Spacers—Comb Honey Hive, Etc.

1. Is there a good, practical spacer to separate the brood-frames? My hive is made here in Vermont, and is called the Dovetailed hive. It is 10½ inches deep, 12½ wide, and 18½ long, inside measure. It contains 9 frames. The top-bars are one inch wide all the way across, and no way of spacing them but by my eye. The hives are carried into the cellar after we go back to Chicago, and I am afraid the frames will be misplaced without any spacer.

2. Is this the best hive for the production of comb honey? If not, what hive do you recommend as the very best? What is its size, and price?

3. Or could I get a different frame for my hives, which will space itself? I had one of Root's Dovetailed hives sent to me a few weeks ago, but the frames are longer and not so deep as mine, so that I cannot use it. MRS. J. J. G.

Littleton, N. H., Aug. 13.

ANSWERS.—1. Yes, there are a good many spacers. The Stephens spacer is good. Some use furniture nails. I have

used with satisfaction a common 1½-inch wire-nail with a head about 3/16 of an inch across, driving it in to the proper depth. If, as is probably the case, the ends of your top-bars rest on the wooden rabbets, you need have little fear as to their being displaced on being taken into the cellar. The bees have in all probability seen to that already, and have glued them down so tightly that little short of turning them upside down will be likely to displace them.

2. Perhaps there is no "best hive" for comb honey or any kind of honey. Nearly all will give good results with good management and good conditions. But it is a matter of some consequence to get one of the standard hives, so that you can at any time be able to order from any dealer hives or parts of hives, as you may desire. Moreover, the hives commonly in use are made in large quantities by manufacturers, consequently they can be sold at very low prices. One of the most popular hives at present is the Dovetail, but I didn't know there was more than one kind called by that name, and the dimensions you give are certainly not the dimensions of the regular Dovetail hive.

3. No doubt you can have frames made to fit your hive that would be self-spacing, such as the Hoffman frame, but rather than continue with an odd-sized hive, if you have yet only a few, would it not be better to adopt a standard size? The great thing is to have a frame of standard size, and the frame that you got in the Root Dovetail hive is probably more nearly standard than any other. This frame is 17½ by 9½ inches, outside measure, and I think you must be mistaken about its being longer than your frame, for you say the length of your hive is 18½, and that of the Dovetail is only 18¼.

Taking Care of Queenless Colonies.

I have been looking through my colonies of bees to-day, and I find three colonies without any brood in their combs, and not many bees, either, so I thought that they must be without a queen. I did not know what to do, as I have no extra queen on hand, so I took one frame of brood from three other hives for each one of these three colonies. I have 40 colonies in all. Do you think they will start queen-cells and save the colonies in that way? or will I have to buy new queens for them?
L. N. M.

Rossville, N. Y.

ANSWER.—The probability is that in about three weeks from the time you gave the brood each of them will have a laying queen. That will be proof that you did the very best thing in the case. If your other colonies are strong, and can spare some more brood, it may be well to give to each of these three two or three more frames of mature brood, thus keeping up their strength till the young brood hatches out.

Lysol—Bees Starving—Feeding.

On page 408 lysol is spoken of for curing foul brood. In what way is it used, and what is it? I have asked our druggist about it, and he does not know what it is. Where can it be obtained?

There is something wrong with my bees. At first I saw them carrying out dead bees. I looked into the hives and found about two-thirds of the brood unsealed, some pretty nearly matured in that condition. What is the cause of their not sealing it? I thought it was on account of being a weak colony, but upon putting some of it into another it became infected the same way.

I notice another in the same condition. I can detect no smell as in foul brood. They keep the dead bees out at the sacrifice of the honey. I am feeding these three colonies now, or they would have starved. What do you think ails them? As I am short of honey what can I feed to winter them on, without danger of dysentery?

I forgot to say that about all the brood that the bees seal up matures and is apparently healthy.
E. S. S.
Atchinson, Kans., Aug. 17.

ANSWER.—I doubt whether you need be very much interested in lysol. Your bees probably don't need lysol so much as

honey or sugar. From the account you give, it seems to be a case of starvation. When stores become scarce, one of the first effects is to lessen the laying of the queen, then the youngest of the brood is sacrificed, then the older brood is sucked out, and you may see the white skins thrown outside the hive.

If you have no honey, the best thing you can feed is granulated sugar. Better feed early, and if you don't put it off too late the most convenient way is probably the crock-and-plate method repeatedly described in these columns. Take a gallon crock—of course a different vessel of different size can be used—fill the crock perhaps ¾ full of sugar and put in a pint of water for every pint or pound of sugar. The water may be cold or hot. Lay over the crock two thicknesses of flannel or six thicknesses of cheese-cloth, and over this put a plate upside down. Put one hand under the crock and the other over the plate and quickly turn the whole business upside down, giving it a shaking so that the sugar may fall to what is now the bottom. Now set it in an empty, bottomless hive on top of the hive to be fed, and cover up so no robbers can get in, and the bees will do the rest.

To come back to your first question, lysol is one of the disinfectants that acts much as phenol or carbolic acid, and is fed in very small quantities in the food of the bees. Some report favorably of it, others not. Any druggist can get it by ordering from his wholesale house. It is "a saponified product of coal-tar containing cresol."

Not Hive-Bees—A Cracker-Box Colony.

1. My wife writes me from New York State that her nephew has discovered a curiosity, or, I may say, a swarm of curiosities. A swarm of bees which she says looks just like my bees, except perhaps their bodies are a little more flat at the extremity, seem to be working in the ground, are bringing out dirt and building up a large mound. Do the common bees ever do this? or are they a distinct species? Seems to me I have read of such bees somewhere, and that they could not be domesticated.

2. I have a neighbor who has a fine swarm of bees in a cracker-box, and they have it nearly full of comb, filled with brood, which I can buy cheap. The comb is crooked and in poor shape to cut out and put into frames. Can I put frames of foundation into a hive and set the cracker-box on top and compel or coax them to go below and work, and abandon this cracker-box when they get the brood hatched out? Or will she lay in both places?
H. W. C.
Weeping Water, Nebr., Aug. 15.

ANSWERS.—1. There are a great many kinds of wild bees, and some of them very closely resemble in appearance the common hive-bee. The bees you speak of are certainly not hive-bees.

2. Doubtful if you can get the queen to desert her cracker-box this year. But next summer she may listen to your proposal for a change of domicile. Let her winter where she is, then next summer you can do as you propose. When the cracker-box is entirely filled and more room is needed, then the bees will work down upon your foundation, and as soon as you find the queen there you can remove the cracker-box or else put an excluder between the two stories. In three weeks all the brood will be hatched out and the box can be removed, unless you prefer leaving it to be filled with honey which will not be in very nice shape. Besides its crooked shape it will be in old combs and more or less mixed with bee-bread.

A New Binder for holding a year's numbers of the American Bee Journal, we propose to mail, postpaid, to every subscriber who sends us 15 cents. It is called "The Wood Binder," is patented, and is an entirely new and very simple arrangement. Full printed directions accompany each Binder. Every reader should get it, and preserve the copies of the Bee Journal as fast as they are received. They are invaluable for reference, and at the low price of the Binder you can afford to get it yearly.

PERSONAL MENTION.

MR. I. ISAAC IRWIN, of Oceanside, Calif., shipped 10 carloads of San Diego county honey to Liverpool, England, during the past year. So says the San Diego Sun.

MR. M. M. BALDRIDGE gave us a call of a few minutes last week. He reports about half a crop of honey in his locality—Kane county, Illinois, about 40 miles west of Chicago—mostly from sweet clover.

MRS. A. A. SIMPSON, of Greene county, Pa., has sent us a copy of "The Woman's Centennial Paper, 1796-1896," all of which was gotten up by prominent ladies of that county—especially of Waynesburg. It is indeed a real credit to the ladies who undertook the work, and carried it out so completely.

MR. J. T. CALVERT, of The A. I. Root Co., made this office a call last week. He was on his way to St. Paul and other places, visiting the various bee-supply branches established by The A. I. Root Co. He reports a good business done this year at the home office in Medina, Ohio. Mr. Calvert also called upon other dealers and manufacturers of bee-keepers' supplies while out on his trip.

MR. C. THEILMANN, of Theilmanton, Minn., was in Chicago last week, looking after a large shipment of honey that he had sent here. He has had a fairly good season this year, having had between 12,000 and 15,000 pounds of comb honey. He expected to make an exhibit of about 500 pounds at the Minnesota State Fair, held at Hamline the past week. Shouldn't wonder if he would capture some of the premiums offered there.

DR. MILLER now reports in Gleanings that he has one colony that this year has given 8 supers of 24 sections each—192 finished sections of honey. Think of the Doctor paying all his expenses attending the Lincoln convention, from the profits of one colony of bees! Yes, and he'll have enough left over to take himself and A. I. Root to hear "Sweet Marie," at the "variety show," if Lincoln tolerates such things. Probably either Mr. Whitcomb or Mr. Stilson will find time to see that the Doctor takes in all the sights while in "Bryantown"—if not possible during the gold-en sunshine of day, then in the silver-y moonlight.

MR. J. O. GRIMSLEY, of Texas, suggests in Gleanings that another bee-keepers' congress be called to meet during the Tennessee Centennial, at Nashville, which opens in May, 1897, and continues six months. We might be in favor of the National convention being held there next year, if as low railroad rates can be secured, and as general, as the Grand Army of the Republic always secures. But we are not in favor of holding any more national bee-conventions until we can be assured in advance that there will be no doubt that at least a rate of one and one-third for the round trip will be in force. Few can afford to spend from \$20 to \$50 to attend a bee-convention.

MR. FRANCOIS S. HAARHOFF, of Pretoria, South African Republic, says in Gleanings that modern bee-keeping is but little practiced there, but that the farmers are beginning to awake to their opportunities in the bee-keeping line. Pure honey, either comb or extracted, sells readily at 60 cents per pound, or section. With a good, big honey-crop each year there, it seems that a bee-keeper would soon feel like singing, "Every Day'll be Sunday By-and-By." Let's see. With 100 colonies like the one of Dr. Miller's that produced 192 sections of honey this year, there would be 19,200 pounds; at 60 cents per pound—well, something over \$11,500. How inspiring those figures are!

MR. RODERICK MCKENZIE is a bee-keeper at Hammond, Ind. We called on him on Saturday, Aug. 29. He has about 80 colonies, having had 40 colonies to start with in the spring. He expects to get half a ton of honey, mostly in the comb.

Mr. McKenzie uses two-pound sections, and some one-pounds. He thinks that a two-pound section is filled almost as quickly as a one-pound. He uses only a small comb foundation starter in each section, about $\frac{1}{2}$ inch deep, and reaching within about $\frac{1}{4}$ of an inch of the sides of the section. We were surprised to see how well the completed sections of

honey were fastened all around. Some of the two-pound sections of honey weighed 28 ounces each. He finds just as ready sale for such as the one-pounds.

Mr. McKenzie's bees are hybrids. There are other apiaries very near him. One is owned by Mr. F. Furnival, about 20 rods away. This has some 60 colonies. Then Mr. W. B. Washington has about as many a mile from Mr. McKenzie's. They all think that the locality is somewhat overstocked, and that some one will have to move before very large honey-crops can be harvested there.

Hammond is a city of 15 to 20 thousand people, about 25 miles southeast of Chicago, and is connected with the latter city by an electric street railway. It is about a two-hours' ride, and makes a nice afternoon outing. Before returning to the city Mr. McKenzie's good wife kindly prepared a delicious supper for us, after which we again took to the street-car, arriving home about 9 o'clock, p.m., as we live about an hour's ride on the street-car north of Chicago.

Many fall flowers were in blossom all along the way, mainly golden-rod, horsemint, etc. Sweet clover does not seem to do well there; perhaps on account of a too sandy soil. If the weather is propitious the fall honey-crop may be very good. This is what the Hammond bee-keepers depend upon. We hope they may yet have a good honey-flow.

MR. WM. M. BARNUM, who for some time answered questions in our "Question-Box" department, is now the editor of Colman's Rural World, of St. Louis, Mo., a fine agricultural periodical in newspaper form. In a recent number Mr. Barnum had this to say about the American Bee Journal, for which he has our thanks:

"Our bee-keeping friends should send for a copy of the 'old reliable' American Bee Journal. Every number is filled to the brim with practical apiarian information, including happily worded and well-edited letters from contributors. Every number is worth the price per year to every bee-keeper in the land."

MR. O. O. POPPLETON, of Stuart, Fla., called on us Aug. 31. He was on his way to the Grand Army meeting at St. Paul. He has about 130 colonies, and has taken 100 pounds of extracted honey per colony this year. He practices migratory bee-keeping to some extent, but not so much as before the great freeze in Florida in 1894.

Mr. Poppleton kept bees in Cuba two seasons, a few years ago. Cuba is only 20 or 30 miles across the water from Florida. The first year he had 38,000 pounds of extracted honey, and the second year 52,000 pounds. He had some 400 or 500 colonies. He says there is no limit to the amount of honey that can be produced on that island. Also that the cost per gallon that Cuban honey can be delivered to New York for, is the price that Southern U. S. extracted honey must be sold for in the same market. In other words, Cuban honey sets the price for ours. Hence, if our tariff on honey is higher, Cuban honey will be higher, and so will be ours. But just now there is scarcely any Cuban honey coming into this country, as the war on the island has destroyed nearly all the apiaries, and everything is pretty much at a stand-still.

We enjoyed Mr. Poppleton's call very much. Some 10 or 12 years ago he was one of the prominent correspondents of the American Bee Journal, he then living in Iowa. He is now one of Florida's leading bee-men. He would write more for the bee-periodicals were it not for a trouble of the eyes and head which he contracted during the Civil War.

The Alsike Clover Leaflet consists of 2 pages, with illustrations, showing the value of Alsike clover, and telling how to grow it. This Leaflet is just the thing to hand to every farmer in your neighborhood. Send to the Bee Journal office for a quantity of them, and see that they are distributed where they will do the most good. Prices, postpaid, are as follows: 50 for 25 cents; 100 for 40 cents; or 200 for 70 cents.

The Names and Addresses of all your bee-friends, who are not now taking the Bee Journal, are wanted at this office. Send them in, please, when sample copies will be mailed to them. Then you can secure their subscriptions, and earn some of the premiums we have offered. The next few months will be just the time to easily get new subscribers. Try it earnestly, at least.

See "Bee-Keeper's Guide" offer on page 589.

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EDITORIAL COMMENTS.

The North American Bee-Keepers' Association is to hold its 1896 meeting at Lincoln, Nebr., Oct. 7 and 8. Don't forget about it. Good time expected. Better be there. Nebraska bee-keepers will entertain *free* those from other States. How's that for a case of "enlargement of the heart?" Nebraskans are noted for big-heartedness—especially the apiarian part of the population.

The New Disease—Pickled Brood.—Dr. Howard, on page 577, in his painstaking and scientific way has doubtless given a flood of light upon a new bee-disease that seems to be making its appearance in a number of apiaries, and in an editorial in *Gleanings* for Aug. 15, Mr. Root evidently touches upon the same disease, in the following words:

I have several times referred to a malady or disease that somewhat resembles foul brood, but which lacks two of the important symptoms, viz.: that it is not ropy, and there is no appreciable odor of any kind. In most cases it seems to go off of itself; and very seldom does it affect more than two or three colonies in an apiary. I have one instance before me where this dead brood is spreading over the whole yard, and it may be necessary to resort to heroic measures before it can be held in subjection. Samples of the brood have been sent me, and it is neither ropy nor foul—that is, smelling like a cabinet-maker's glue-pot. The sender of this sample of brood tells me that his neighbor has the same thing.

Some speculation has been advanced, to the effect that this dead brood was owing to some sort of poison the bees get. This may or may not be true. I should be inclined to believe that it is some form of disease, and that it is, to a greater or less extent, contagious.

I have seen samples of it in our own yard at various times, but it has invariably gone off of itself, and it rarely affects more than two or three combs in the hive, and only a few scattering cells in each. It has never spread, and comes and goes.

In the case I have just referred to it has gone through the whole apiary. It has weakened the colonies, and the bees appear to be discouraged—so much so that they very soon fall victims to robbers.

I hope some scientist will take hold of this, find the microbe, and name it. In the meantime I trust that our friend, whose name I forbear mentioning, will treat these cases just as if they were cases of real foul brood, and report the result. I hesitate to mention the names of those who have diseases among their bees, without their consent, especially where the disease may be something that may easily be held under control. For instance, when foul brood has once been in an apiary, even though the last vestiges of it have not appeared for years, the mere fact that *it has been in that yard* seems to place a ban upon it for all time in the eyes of the general bee-keeping public.

Editor Root's desire that some scientist would investigate the matter is now gratified, much sooner, possibly, than he

expected. We, also, have lately received several samples of the "pickled brood," from bee-keepers who thought it foul brood. There was no offensive odor about it, as Mr. Root says; but as we had never seen a case of foul brood, we referred the samples to a bee-keeper who has had a real experience with it, and he said at once that the dead brood was not foul brood, but he could give no idea as to its cause, or suggest a remedy therefor.

We trust that where this new disease exists, Dr. Howard's treatment may be used, and reports given as to the results.

Owing to the increasing prevalence of the genuine foul brood, no bee-keeper should be without Dr. Howard's excellent booklet on that subject, which gives both cause and treatment. We mail it for 25 cents, or send it with the *Bee Journal* for a year, for only \$1.10.

C. R. Horrie & Co. Again.—The name of C. R. Horrie & Co. will be pretty familiar to most of our readers, as the Chicago firm that last year so unmercifully swindled bee-keepers when handling their honey. Well, through the kindness of an old friend to the *American Bee Journal*, we are in possession of one of the most flaming and "high-falutin'" circular letters we ever saw, which was sent out last month by this same firm of Horrie & Co.

Our readers well know that we are not much in favor of giving free advertisements, but we will break over our rule, and give to the above firm a big, free notice, by publishing in full their "flowery" circular letter, omitting only the displayed heading which besides giving their name says they are commission merchants, dealing in honey, beeswax, etc., at 224 S. Water Street. Here is the printed letter they sent out last month:

CHICAGO, Aug. 22, 1896.

The grandeur of the Flowery Kingdom is made more wonderful to the imagination of man, by the busy bee, who makes the wild rose bow with beauty, as it yields up its sweetness to the ever vigilant master, who refuses to be comforted until all its commercial worth has duly, and deftly been extracted by the untiring genius of this marvelous insect, that has added so much to gratifying the finer tastes of those who are seeking the good things of the world. The *Bee Farmer* is engaged in one of the most laudable enterprises known to this day and generation. Little did our forefathers think it possible that man in time would work, hand in hand with this wonderful creation of God, until all the world pays homage to King B, and calls it great, in cheerful recognition of the fact that there is **nothing sweeter than Honey in the honey-comb.**

In the dark ages when all things were sublimely crude, King Solomon in exalting the beauty and fascinations of the fairest charmer, failed to find words that would fully express his fervent devotion, till he madly exclaimed, in the blindness of his passion, "Thou art sweeter than honey in the honey-comb."

As we are now upon the threshold of another Autumn Season, we feel that it is high time we began corresponding with you in regard to the **Honey Business.** As you have doubtless known us through dealings in the past, it seems very unnecessary for us to introduce ourselves, as we feel that our reputation in the trade generally is a sufficient guarantee of our ability and financial standing.

To begin, we will have a heavier general crop of Honey this year than this country has ever known before, that is, if we can intelligently judge from the communications we constantly receive from authorities in the Honey-Producing Sections. Consequently, we have perfected arrangements that will not only enable us to handle double the shipments of past years, but will also, in many cases, enable us to insure better satisfaction.

We have double the store-room we had before, have made improvements in the way of light and display accommodations, and therefore feel that we can make more ready sales, and although there may have been some parties who did business with us last year who were not quite satisfied, we think, that where complaint was made it was traced to the inferiority of the stock, condition on arrival, or the unfavorable time of shipment.

Late last season, as every one knows, the market

"slumped," but the early sales were, in almost every instance, such as to meet the general approval of the shippers. While there was a heavy crop of Honey last season, the production this year will far exceed anything in the past. The turn taken by the market late last season established a precedent that it will be well for Bee Men to observe. The heavy crops that were thrown on the market in November and December made Honey more common than usual to consumers, and they soon became tired of it, while early in the season they bought freely, and paid good prices. In fact, we could hardly get enough to satisfy the requirements of our trade. We may have a recurrence this year, and we want to advise our friends and shippers not to wait. Put your Honey up in proper shape as soon as it is taken off and ship at once to us. As stated above we have demonstrated our ability to handle Honey, and our better facilities make us an invaluable medium to every shipper who has Honey to sell. So far this season we have received a good many shipments, and we think the parties who have consigned to us are well satisfied with their sales. There is quite a good demand for both Honey and Beeswax, and we are especially anxious to receive heavy immediate shipments of both Comb and Extracted.

If you are not in possession of one of our stencils, or have none of our tags, write for them, and we will forward same immediately upon receipt of your letter. At any rate we would like to hear from you with full information as to what kind of Honey you have, and we could then probably give you closer information than the general facts as mentioned in this letter.

We quote price at which we are making sales:

Fancy, White, per lb.	15 to 16
No. 1, "	14 to 15
Fancy, Amber, "	12 to 14
Fancy, Dark, "	9 to 10
EXTRACTED:	
Fancy, White, per lb.	7 to 7½
Amber, "	6 to 6½
Dark, "	5 to 5½
Beeswax, "	25 to 27

Although we have repeatedly given you instructions as to how to ship, there are still a few remarks to which we wish to call your attention, so that they will not be overlooked.

"Do not put White and Dark Honey in the same case, unless marked accordingly."

"Do not send us a pound of Honey unless you write or wire about it, stating what kind you have sent, and via what line it was shipped."

Now, no matter what your location is, we maintain that **Chicago is your best market**, and it is verified by the business we have received from the many intelligent shippers in the States of New York, Virginia, Florida, New Mexico, Vermont, California, Utah, Mississippi, Texas, in fact almost every State in the Union. We would advise you to ship by freight, as the rates are not only lower than express, but the Honey usually arrives in better condition.

Remember that our Honey business last year was proclaimed by even our competitors to have been double that of any other house, and we assure you that this large business only came to us through hard work and close attention to the interests of our shippers. It has always been our rule to **keep a shipper after we once get him started**. We endeavor to make him our friend and regular patron, and we will certainly endeavor to do the same by you if given a trial.

Write us if you want a new stencil to mark your boxes with. It appears neater when marked in this way than when tags are used. It is also a good and safe way to take a pencil, and mark the destination on the top of each crate.

We offer the following as references:

The Farmer's Voice Paper of this City; the Wisconsin Agriculturist, of Racine, Wisconsin; The Iowa Homestead, of Des Moines, Iowa; The Shippers' Weekly Review Paper, this City, or in fact any Bank, Wholesale House or Shipper in the country who has done business with us. We are well known, and it will be very little trouble to investigate our standing, if you desire to do so.

We wish you also to remember that in addition to our Honey business we have a fine trade for **Potatoes, Apples, and all kinds of Fruits and Vegetables**, as well as **Evaporated Fruits and Nuts** of all kinds, and would be only too well pleased to quote you prices on anything you desire to make sale of in this market.

You certainly cannot make any mistake by associating yourself with us, as we are the hustlers of this market, and can always do justice to the goods which you may send us.

Our time is yours, and will be glad to accommodate you in any way that we can.

Ship us in your Honey, and get what it is worth.

Yours respectfully,

C. R. HORRIE & Co.

How is that for a breezy letter? Pretty windy, eh? No one but the veriest know-nothing should be "caught" by such a letter as that. And yet, after all we published last winter against this firm, one of our old subscribers, who evidently received a copy of the above letter recently, wrote to ask us if we considered Horrie & Co. responsible!

When they mailed that letter, they knew that the best comb honey was bringing not over 13 cents per pound in a wholesale way. And yet they quoted 15 to 16 cents. Their scheme is, by quoting high prices, to get bee-keepers to ship them honey on commission, which last year in a number of instances they sold for about what they were offered, and remitted the shipper a net price of anywhere from 7 to 10 cents per pound for white comb honey.

Now we hope that none of our readers will fall into any such trap as is set before them in the above letter. Be sure that you have the best of recommendations before placing your honey in the hands of strangers. Better give your honey away around home, rather than to ship it to some city commission men who will take every advantage of you they can.

LATER.—Since the foregoing was written, we have learned that there has been a "ring" formed here among several firms of the Horrie stamp, and that they are all after honey, no doubt thinking that bee-keepers are easily gulled, and that there is a fortune to be made by swindling the confiding bee-men. We are told that Horrie & Co. belong to the "ring," which we do not doubt.

Bee-keepers, beware of all strangers who are over-anxious to get your honey. Honest dealers don't have to send out tempting circular letters, baited with high quotations. Again we say, **Beware!**

The Sulphur Cure for Bee-Paralysis.—As noted in our "Personal Mention" department, Mr. O. O. Poppleton, of Florida, has been to see us. Among others the subject of bee-paralysis came up. He said that he has had perhaps the most extensive experience with this disease of any bee-keeper in this country, having had during the past 15 or 16 years about 200 colonies affected. One year in Florida he lost a crop of 10,000 pounds of honey on account of the disease. His experience with it began in Iowa, about 16 years ago, where he had a number of colonies affected. He has tried every suggested remedy, but all to no purpose until he began to use sulphur in treating it in Florida. This is the only thing that brought relief. He began by dusting with sulphur the frames and bees of two or three colonies, and as he saw the bees recover, he treated other affected colonies, and now he can hold the disease in check with little trouble by using the sulphur treatment.

In speaking of the symptoms of the disease, Mr. Poppleton said that the very best description he ever saw in print, was that given by a querist in Gleanings recently, who said:

"The bees seem to be swollen up, many of them, and have a shaking motion, and the well bees are dragging off those the nearest to lifeless, while the dead are quite thickly strewn about the hive-entrance. On opening the hive I find many of these bloated, shaking bees near the ends of the frames, in and about the rabbets of the hive, and in out-of-the-way places. The queen seems to be very prolific; but these trembling, dying bees seem to take the disorder rather faster than young bees emerge from the cells; hence instead of gaining in numbers, as are my other colonies, this colony is dwindling."

Mr. Poppleton says that in the North a colony that goes into winter quarters badly affected with this disease invariably dies before spring. He thinks that may be one reason why bee-paralysis is not so prevalent in the North—each spring there is a new start, while in the South, with their mild winters, the affected colonies do not die out so.

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—OR—

Political Struggles of Parties, Leaders and Issues

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Upon the Living Issues of the Hour.

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Portraits of former Presidents, with a Review of their Administrations and the Political Lessons gleaned from them; together with a Portrait Gallery of Statesmen and Political Celebrities comprising 100 accurate

Phototypes and other Portraits, embracing the most active and prominent statesmen in our Nation. The whole forms a Voter's Hand-Book of Political Information, thoroughly practical, enjoyable and instructive, enabling him to vote intelligently upon those vital subjects which constitute the living issues of the present great campaign.

This book embodies the views and opinions of the great leaders from the various party points of view, clearly explaining all the momentous questions now before the people. It is planned upon the broad principles of non-partisan national patriotism, and attacks no man's creed, and upholds the ban-



McKinley.



Bryan.

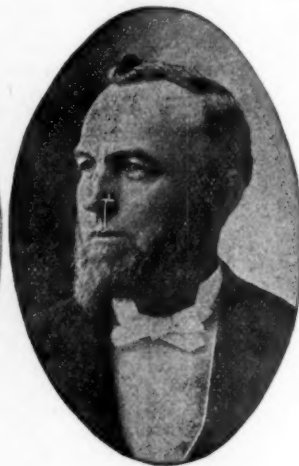
ner of no party; but placing every party and its principles, with its leaders upon its own platform, and bringing the several parties, platforms and champions in their true light before the mind of the reader, the intelligent citizen will, in this book, be enabled to view and compare them side by side and judge of their respective claims upon his vote as an

American citizen. It is a vast storehouse of truth, plain, simple and unvarnished, which makes this work an unequalled source of information upon the great issues of this campaign, suited to the wants of every voter irrespective of party and without partisan bias.

Our Country calls for thirteen million volunteers. "I do love my country's good with a respect more tender, more holy



Levering.



Bentley.

and profound than mine own life," is the language which Shakespeare puts into the mouth of an ideal patriot. May this sentiment find a universal echo in the hearts of the voters of the United States of America who go to the polls in November, 1896.

Great questions are to be settled; a mighty battle is to be fought; a battle of ballots such as this country has never witnessed, which, in its far-reaching effects, will accomplish on the field of American suffrage, at the Ballot Box, next November, results as potential for good or evil to our Nation, revolutions as radical, and effects as lasting upon our institutions, as were ever wrought upon the field where sword and bullet, grape and canister settled the issue of the hour.

An impartial view of the situation reveals the fact that our Country never needed more broad-minded wisdom and unselfish patriotism in all her history than she requires to guide her through the present crisis.

Since the rising war cloud of 1859-60 which deluged our Country in the blood of brothers, our Nation has not been so agitated, divided and excited as it is to-day from ocean to ocean—North, South, East and West, on the great financial question, which is a vital issue of this campaign; and its settlement is fraught with threatenings and omens indicating political combinations, upheavals and surprises which our shrewdest politicians seem unmindful of or unwilling to recognize.

Since 1873 the mutterings of discontent have been growing louder between the advocates of Gold and Bi-metal standards. During the past three years, these mutterings have grown into clamorous shouts and peremptory demands on both sides. Statesmen never thought so diligently or more deeply on any subject; and the whole country never was so eager to have all sides of this momentous question presented in a clear, lucid and intelligible manner which the common reader can understand—the money question.

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118 Michigan Street,

CHICAGO, ILL.

General Items.

Bees Did Well.

Bees have done very well here the past summer in southeastern Kansas. Our honey is gathered principally from sweet clover and heart's-ease. Some seasons white clover produces honey quite plentifully, but not every season. We don't have very severe winters here. Our bees come out in fine condition as a rule, in the spring. Long may the Bee Journal prosper.

DAVID PUDERBAUGH.
Ozawkie, Kans., Sept. 2.

The Northern Illinois Convention.

The annual meeting of the Northern Illinois Bee-Keepers' Association was held at the residence of B. Kennedy, in Winnebago Co., Ill., Aug. 18, 1896, with a good attendance, considering the poor crop of honey, which, according to the reports of the members, was only about 18 pounds per colony.

The officers elected were as follows: President, G. H. Herrick; Vice-President, O. Taylor; Secretary, B. Kennedy; and Treasurer, O. J. Cummings.

"What is the best way to get laying workers to accept a queen?" was asked. Ans.—Double up.

"What is the best method of handling colonies and swarms for comb honey?" The Heddon method was considered the best.

"Do bees gather honey from rag-weed?" It was thought not.

The prospects for a honey crop another year was considered good, as the rains had started white clover up, and it is thicker now than for some years.

Mr. George McCartney showed a machine for fastening foundation in the sections and cutting it, that all the members thought was the best yet invented, and it promises to be a great success.

The spring meeting is to be held May 18, 1897, at the residence of H. W. Lee, of Pecatonica, Ill.

B. KENNEDY, Sec.

A Partial Crop—Pacific Weather.

I did not do anything with the bees this year, but one of my brothers gave them what attention they had. He got a partial crop of honey—say about one-fourth of a crop. Of course that is far better than that obtained in the southern counties. The honey was darker than usual. He has not yet disposed of it. The price of honey is far too low, considering the failure of the crop this year.

I do not see how the apiarists of the lower counties exist—it seems an impossibility for them to make a living off their bees at the low price honey commanded the past two years. Then, this year they got nothing in the honey-section of the State. It seems that the honey-fields of California are moving northward. The great San Joaquin valley is taking the palm away from the sage regions.

What hot weather you must have had in the East a few weeks ago. I'm sure many an Easterner at that time wished he was on the Pacific coast. When the thermometer runs up to 90° or so here

THE "NOVELTY" POCKET-KNIFE!



Your Name on the Knife.—When ordering, be sure to say just what Name and Address you wish put on the Knife.

The NOVELTY KNIFE is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed an AMERICAN BEE JOURNAL reminder, and on the other side, name and residence of the Subscriber.

The material entering into this celebrated knife is of the very best quality; the blades are handforged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring steel, and the finish of handle as described above. It will last a lifetime, with proper usage.

Why purchase the Novelty Knife? In case a good knife is lost, the chances are, the owner will never recover it; but if the Novelty is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the Novelties, your pocket KNIFE will serve as an identifier; and in case of death, your relatives will at once be apprised of the accident.

How appropriate this knife is for a Christmas, New Year or birthday present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, a lady to a gentleman, or vice versa, a son to a mother, a husband to a wife, a brother to a sister or a gentleman to a lady—the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid, for \$1. , or give it as a Premium to the one sending us three new Subscribers to the BEE JOURNAL (with \$3.00), and we will also send to each new name a copy of the Premium Edition of the book "Bees and Honey." We club the Novelty Knife with the BEE JOURNAL for one year, both for \$1.90.

Any Name and Address Put on the Knife.

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Has No Sag in Brood-Frames

Thin Flat-Bottom Foundation

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Being the cleanest is usually worked the quickest of any Foundation made

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ITALIAN QUEENS By return mail; bred from a Breeder tested by DoLittle out of 1,000 Queens for his own use, and valued at \$50. Queens, 50c; 6 for \$2.75; or \$5.00 per dozen.

Leather Colored Queens from Root's best imported stock same price. Bees from my Queens are excellent workers on red clover. I guarantee safe delivery. N. B.—I sent more than 200 Queens safely to California last season.

H. G. QUINN, Bellevue, Ohio.

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Can do the work of four men using hand tools, in Ripping, Cutting-off, Mitring, Rabbeting, Grooving, Gaining, Dadoing, Edging-up, Jointing Stuff, etc. Full Line of Foot and Hand Power Machinery Sold on Trial. Catalogue Free.

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That Queen-Clipping Device Free!

Works Like a Charm.

The Monette Queen-Clipping Device WORKS LIKE A CHARM. With it I have clipped 30 queens, all in one day, when examining my bees. WM. STOLLEY, Grand Island, Nebr.

Couldn't Do Without It.

I have clipped 19 queens, and must say the Monette Queen-Clipping Device is by far the best invention ever made, and will be welcome to many bee-keepers as it was to me. I could not do without one now.

DR. GEO. LACKE, Newburgh, Ind.

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Send us just one new name for the American Bee Journal a year (with \$1.00), and we will mail you the Queen-Clipping Device FREE of charge. Or, the Queen-Clipping Device will be sent postpaid for 30 cts. But why not get it as a Premium by the above offer? You can't earn 30 cts. any easier. Almost every bee-keeper will want this Device. See page 130 (Feb. 27) for full description of it. Complete directions accompany each one sent out. It is a most ingenious and useful article. Address,

GEORGE W. YORK & CO., 118 Michigan St., Chicago, Ill.

we do not mind it. It is seldom, though, that it gets up to 75°. In the San Joaquin and Sacramento valleys it goes up to 100° or more almost every summer; yet, men work in the harvest-fields, and it is seldom that one is overcome by the heat. Usually in the middle of the day when the heat runs up so high, the men "lay off" until 2 p.m., when it moderates so they can work comfortably. I saw it so hot here in June, 1883, that cherries on trees on the side exposed to the sun were cooked. Yet there was not a single case of sunstroke.

Of course, ours is a dry heat, and is not so dangerous as the humid heat of the East. The heat of the East, when I was there, did not bother me any. I walked from Broadway to the business center of Baltimore, Md., one day, and did not mind it. Of course I called it a hot day. The next morning I read that there were several cases of sunstroke in Baltimore and Washington.

W. A. PRYAL.
North Temescal, Calif., Aug. 27.

Light Crop, but Fine Quality.

Crops are beginning to move now, and the worst is over for this season. What the next will bring no man knoweth. We are living in hopes, and almost on hopes. Honey is about one-fourth a crop, of extra-fine quality.

J. B. ADAMS.
Longmont, Colo., Sept. 1.

A First Year's Experience.

I had about 20 colonies of bees at the opening of spring, but about two-thirds of them were in box-hives, and I transferred them all as early as possible into frame hives. This set them back a good deal, as I really think it took them longer to build up on the old combs than it would have done to build up from foundation. I lost several swarms, and now have 33 colonies in good condition for winter.

I had everything to learn about bee-culture when I began last spring, and have made plenty of mistakes, but another year I think I shall know how to avoid some of them.

The season has been very wet and windy, so there were a good many days when the bees could do nothing, but there were oceans of wild flowers, and when there did come a day of sunshine, how the honey did roll in! Later on I will send a report of the amount of honey I have taken off. The bees are still working in the sections very busily.

CHAS. E. CRAWFORD.
Red Oak, Mich., Aug. 29.

Bees That Are Swarmers.

I want to say something more about those bees that are swarmers, but I think they are through swarming for this season; they began on the fourth month. I had two swarms out Aug. 26, but as it came off too cool for them to swarm since that date, I think the swarming business is closed for this time, and I am not sorry, either, for I have had quite a time with the bees for the past three months or more. Before buckwheat began to blossom they were not swarming very much for a few days, but as buckwheat came on they commenced again in good earnest. Several

—An Extra-Fine Grade of— Comb Honey!

Any one wishing something very nice in
**White Clover or Basswood
Comb or Extracted
HONEY**

for Exhibition or any purpose where a gilt-edge article is desired, should write for prices and particulars to,

JEWELL TAYLOR,
35A4t FORESTVILLE, MINN.

What They All Say!

The Queen you sent me is the finest I ever had, and I have bought them all over the country. I am glad I can get the best right at home. Find \$1.00 for another.

MASON E. MARVEL,
Aug. 16, 1896. Oakland, Mass.

The above Queen was an Adel. I have 300 more just like her. Hardy, prolific, great honey-gatherers and practically non-swarming and non-stinging. New 4-page Catalog, giving history of the Adels and safest method of introducing Queens, sent free.

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and Greatest
Variety in the
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lying along and owned by the Yazoo & Mississippi Valley Railroad Company, and which that company offers at low prices and on long terms. Special inducements and facilities offered to go and examine these lands, both in Southern Illinois and in the "Yazoo Valley," Miss. For further description, map, and any information, address or call upon E. P. SKENE, Land Commissioner, No. 1 Park Row, Chicago, Ill. 33D6t

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of the young swarms that had not as yet swarmed, cast a swarm. I also had 14 old colonies that had swarmed, send out another with a young queen. Several of them had swarmed three times several days, yes, some weeks, before—something I never had occur with my bees, only in one instance with one colony, and that was when I gave them a young queen immediately after the swarm issued, to prevent any further swarming, as I had done before. The young queen was not yet fertilized, but it would not work this season. In some instances, this season, I have had swarms from young swarms, which had not taken place before with my bees.

H. F. NEWTON,
Whitney's Crossing, N. Y., Aug. 31.

Did Fairly Well.

Bees did fairly well here. I commenced the season with six colonies, and now I have 11, and 175 pounds of comb honey, which sells here at 15 cents wholesale and 20 cents retail.

I would not be without the American Bee Journal, for I believe that I have gained more from it than from bee-books.

AUG. BACHMANN.
Seattle, Wash., Aug. 30.

Thick or Thin Sugar Syrup.

I prefer to feed a thick syrup, because it saves the bees much labor in evaporating, and also that I may be sure they will not suffer, if, from any cause, they fail to properly evaporate a thin syrup. When a thin syrup is fed late in the season (the time when feeding is done by a majority of bee-keepers), it is not properly ripened. When fed early it is usually well ripened, but always at a heavy cost in the vitality of the bees. The life of the worker-bee is not measured by time, but by the work it performs; and it is not too much to say that a full quarter of the vitality of a swarm of bees is often consumed in storing a winter supply of sugar syrup. Even when done under the most favorable condition, the loss is so heavy that it is safe to say that the feeding of sugar syrup in the fall is at the best a necessary evil, and to be avoided whenever possible. The bees become aged by this period of activity, and, although they may winter well, in the spring are unable to rear brood as rapidly as colonies depending upon natural stores. The lack of brood in sugar-fed colonies has often been observed, and always explained by the supposed inferiority of the food; whereas the cause is only partially this. That close observer, Capt. Hetherington, first called my attention to the great loss of vitality connected with feeding. Cheshire also admits the same, and gives a partial explanation based on physiology.—P. H. ELWOOD, in Gleanings.

Sweet Clover & Canada.

At the following prices:

5 lbs.	10 lbs.	25 lbs.	50 lbs.
\$1.00	\$1.60	\$3.75	\$7.25.

Also a quantity of Motherwort and Catnip seed. Prices on application.

EGGS for Hatching. Buff Leghorns, Indian Games, & Light Brahmas. Choice Birds. A breeder for 30 years. Prices on application.

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The Bee-Keeper's Guide
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MANUAL OF THE APIARY.

This 15th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to give away to our present subscribers, for the work of getting new subscribers for the American Bee Journal.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book published today. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipped, or his library complete, without "THE BEE-KEEPER'S GUIDE."

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Honey and Beeswax Wanted.

Boss bee-escape Warranted the best, simplest and quickest Escape on the market. Sent postpaid to any address for 30 cts. It can be returned at our expense if it is not as represented, or we will send the Escape on trial to any bee-keeper wishing to test it in good faith. We are agents for the Ferguson Patent Hive with double-case Super and Wick-Gate Honey-Board, with the Escape. It is the easiest, quickest hive to handle for the production of comb or extracted honey.

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Send us **Two New Subscribers** to the Bee Journal (with \$2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for \$1.25, or we club it with the Bee Journal for a year—both together for only \$1.75. But surely anybody can get only 2 new subscribers to the Bee Journal for a year, and thus get the book as a premium. Let everybody try for it. Will you have one?

Page & Lyon Mfg. Co.,

NEW LONDON, WIS., operates two saw-mills that cut, annually, eight million feet of lumber, thus securing the best lumber at the lowest price for the manufacture of bee-keepers' supplies. They have also just completed one of

The Largest Factories,

and have the latest and most improved machinery for the manufacture of Bee-Hives, Sections, etc., that there is in the State. The material is cut from patterns, by machinery, and is absolutely accurate. For Sections, the clearest and

The Whitest Basswood

is used, and they are polished on both sides. Nearness to pine and basswood forests, and possession of mills and factory equipped with best machinery, all combine to enable this firm to furnish the best goods at

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For instance, it has a job lot of 200,000 No. 2 Sections that will be sold at 50 cts. per 1,000; or 2,000 Snow-White Sections will be sold for \$4.00, and larger quantities at still lower prices. Send for Circular and see the prices on a full line of supplies. 16Atf

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Beginners should have a copy of the Amateur Bee-Keeper, a 70-page book by Prof. J. W. Rouse. Price 25 cents; if sent by mail, 28c. The little book and the Progressive Bee-Keeper (a live, progressive 28-page monthly journal) one year, 65c. Address any first-class dealer, or

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I have some of the celebrated Van Deusen Thin Foundation in 25-pound boxes, that I will put on board cars for \$12.50 per box.

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Queens!
Queens!



Fine Untested Queens mailed PROMPTLY at 45 cts. each, or Six for \$2.40.

Safe delivery and satisfaction guaranteed. Address,

F. GRABBE,
 LIBERTYVILLE, Lake Co., ILL.

26Atf Mention the American Bee Journal

Bee-Keeper's Guide—see page 589.

Question-Box.

In the multitude of counsellors there is safety.—Prov. 11-14.

Taking Off the Surplus Section Honey.

Query 28.—In taking off surplus honey, do you take out the sections separately as fast as finished, or do you wait till all in a super are finished and take off the whole super at a time?—ILLINOIS.

Jas. A. Stone—Wait till the super is finished.

R. L. Taylor—I take off a whole super at a time.

Emerson T. Abbott—I aim to take all off at once.

Chas. Dadant & Son—Better take them off as fast as well sealed.

G. M. Doolittle—I take off a whole super at a time, using bee-escapes, as a rule.

Rev. M. Mahlin—I take them out as finished, unless they are being finished very rapidly.

J. M. Hambaugh—I have practiced both ways, but we must be governed by the honey-flow.

W. G. Larrabee—I wait until all in the super are finished, but see that they have plenty of room in a super underneath.

Prof. A. J. Cook—If I wish it very fine, I take it off as soon as capped. Generally it pays best to take off a super at a time.

J. A. Green—I wait until a super is nearly finished, and look it over as soon as taken from the hive, putting back unfinished sections.

Mrs. L. Harrison—No! I let them remain in the cases until I sell them, unless I'm short of supers, which has not been the case of late.

E. France—I would not wait for the very last one to be finished, unless they were finishing them up pretty fast. If they were, I would let them finish all.

Mrs. J. N. Heater—If honey is coming in fast, I take a case at a time, but if it comes in very slowly, it sometimes pays to take a few at a time to have them in better condition.

Wm. McEvoy—As a rule, I wait until all are finished. But my system of working for section honey is different from all others.—[Suppose you tell us about your comb-honey system, some time, Mr. McEvoy.]

Dr. J. P. H. Brown—When there is a full flow of honey I usually leave the super on until all are capped; but if the flow is only moderate, I take out the sections as soon as capped in order to prevent discoloring.

J. E. Pond—I do not now produce honey enough to be able to determine which is the better plan, but I take out filled sections when I find them, and thus the small amount of comb honey I do get is clean and nice, when otherwise it might not be.

G. W. Demaree—When the season is poor, and slow progress is being made, I take out the finished sections, putting primed sections in their places; but when the season is good, and work goes on rapidly, I practice the tiering system

—putting the empty cases under the partly-filled cases—and remove the full cases when all the sections are completed in them. It only pays to handle one section at a time when the season is poor. I don't mean to say that I leave all the cases on the hive till the harvest is over; I remove all cases as soon as all the sections in them are all completed.

Eugene Secor—I wait till most sections are finished, and take the super off. I take the unfinished ones from several supers and make up a new one to be returned and finished, except at the close of the season, then I extract from the partly-filled ones.

Dr. C. C. Miller—Neither. During the flush of the season I take off a super when all but four or five are finished; and later in the season a super is often taken off when only half are finished. Then the unfinished ones are massed together to be put back again.

C. H. Dibbern—I remove whole supers. In case the yield is scant, and supers will not be entirely finished, I leave them on as long as any honey comes in, and then take off the supers. I then remove all sections that are finished, and replace the balance on the hives to be finished during the next flow, if any is expected.

Queens and Queen-Rearing.

If you want to know how to have queens fertilized in upper stories while the old queen is still laying below; how you may safely introduce any queen, at any time of the year when bees can fly; all about the different races of bees; all about shipping queens, queen-cages, candy for queen-cages, etc.; all about forming nuclei, multiplying or uniting bees, or weak colonies, etc.; or, in fact, everything about the queen-business which you may want to know—send for Doolittle's "Scientific Queen-Rearing"—a book of over 170 pages, which is as interesting as a story. Here are some good offers of this book:

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HONEY and BEESWAX

MARKET QUOTATIONS.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, and, so far as possible, quotations are made according to these rules:

FANCY.—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1 dark," etc.

Chicago, Ills., Aug. 31.—Fancy white clover, 13c; No. 1 white, 11@12c; fancy amber, 9@10c; No. 1 amber, 6@8c; fancy dark, 8@9c; No. 1 dark, 7c. Extracted, white, 5@7c; amber, 5@5½c; dark, 4½@5c. Beeswax, 25@27c.

The month closes with some offerings of new comb honey, for which 14-15c. is asked for best lots—but there are no sales of consequence to report. There is usually a good deal of it moved in September, thus establishing the early market.

Philadelphia, Pa., Aug. 14.—Extracted, white, 8-10c; amber, 4-5c; dark, 3-4c. Beeswax, 25c.

No new comb in this market yet. Old comb cleaned out.

Detroit, Mich., Aug. 8.—No. 1 white, 12-12½c; fancy amber, 10-11c; No. 1 amber, 9-10c; fancy dark, 8-9c. Extracted, white, 5½-6c; amber, 5-5½c; dark, 4-5c. Beeswax, 24-25c.

Cincinnati, Ohio, July 10.—No. 1 white, 13@14c; fancy amber, 12@13c; No. 1 amber, 10@12c. White, extracted, 5@7c; amber, 5@6c; dark, 3½-5c. Beeswax, 20-25c.

Indianapolis, Ind., July 28.—Fancy white, 15-16c; No. 1 white, 13-14c. Extracted, white, 6-7c. Beeswax, 25-27c.

No demand at all for off grades of either comb or extracted honey. Large fruit crop and warm weather are opponents to the demand for honey at present.

New York, N. Y., Aug. 8.—No. 1 white, 12@13c; fancy amber, 11@12c; No. 1, 10@11c. Extracted, white, 5½@5¾c; amber, 5c; dark, 50c. per gallon. Beeswax, 25c.

Our market has not opened up as yet and we would not advise shipping comb honey before Sept. 1, or latter part of this month. Extracted is selling fairly well at prices quoted. Beeswax very dull and declining.

St. Louis, Mo., Aug. 8.—Fancy white, 13@14c; No. 1 white, 12@13½c; fancy amber, 11@11½c; No. 1 amber, 10@10½c; fancy dark, 8@9c; No. 1 dark, 7@7½c. Extracted, white, in cans, 5c; in barrels, 4@4½c; amber, 3@3½c; dark, 2½@3c. Beeswax, 19@20c.

Very little honey coming in at present, and the weather is too warm to handle to advantage if it were here.

Albany, N. Y., Aug. 25.—Fancy white, 14-15c; No. 1, 12-13c; fancy amber, 11-12c; No. 1 amber, 10-11c; fancy dark, 9-10c; No. 1 dark, 8½-9c.

Receipts of comb honey are quite large, and there is some demand, but we think producers make a mistake in urging immediate sales, as it tends to lower prices. There is quite a demand for comb honey put up in paper cartons.

San Francisco, Calif., Aug. 26.—White comb, 11-12½c; amber, 7½-10c. Extracted, white, 5-5½c; light amber, 4½-4¾c; amber colored and candied, 3½-4c; dark tulle, 2¾-3c.

Little doing in honey, and transfers effected are wholly on local account. In seasons of light yield like the present one, the quality is ordinarily of rather low grade, but some honey as fine as was ever seen upon this market has been recently landed here in the shape of comb in 1-pound sections.

Beeswax, fair to choice, 22-25c. There is a fair inquiry for such as can be guaranteed strictly pure. Where there is any suspicion of adulteration, buyers give offerings the go-by.

Milwaukee, Wis., Aug. 8.—Fancy white, 14-15c; No. 1, 12-13c; No. 1 amber, 8-10c. Extracted, white, 6-7c; amber, 5-6c; dark, 4-5c. Beeswax, 22-24c.

New crop of honey begins to come forward. The demand is very poor and quotations almost nominal. Weather is very warm and the consumption of honey is very small. Plenty of fruit, and hence the appetite is satisfied with same in preference. Later on we expect an improved demand for honey of all kinds.

Minneapolis, Minn., Aug. 8.—Fancy white, 12½c; No. 1 white, 10@11c; fancy amber, 9@10c; No. 1 amber, 8@9c; fancy dark, 7@8c; No. 1 dark, 6-8c. Extracted, white, 5½@6½c; amber, 5@5½c; dark, 4@5c. Beeswax, 23@26c.

The demand for both comb and extracted is very quiet, and for the latter, nominal. The hot weather of the past week or so has checked demand for comb honey.

Cleveland, Ohio, Aug. 8.—Fancy white, 14½@15c; No. 1 white, 12½@13c. Extracted, white, 6@7c; amber, 4½@5½c. Beeswax, 22@25c.

There is not very much honey in our market. Selling rather slow. Demand beginning to be a little better. Think trade will be fair in this line this fall.

Kansas City, Mo., Aug. 8.—Fancy white comb, 15c; No. 1 white, 13@14c; fancy amber, 12-13c; No. 1 amber, 11-12c; fancy dark, 10-11c; No. 1, 8-10c. Extracted, white, 6-6½c; amber, 5-5½c; dark, 4-4½c. Beeswax, 22-25c.

Boston, Mass., Aug. 10.—Fancy white, 14-15c; No. 1, 12-13c; fancy amber, 9-10c. Extracted, white, 6-7c; amber, 5-6c. Beeswax, 25c.

Good supply of new honey, but demand is light this very hot weather.

Buffalo, N. Y., Aug. 28.—Fancy comb, 1-pound, quiet, 11-12c; No. 2, quiet, 8-10c; No. 3, 4-6c.

Old honey is almost unsalable, as well as lots in poor order. Too early for much demand. Don't advise shipments before September to Buffalo and then classify according to actual value.

List of Honey and Beeswax Dealers.

Most of whom Quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 163 South Water Street.

New York, N. Y.

HILDRETH BROS. & SEGELKEN,
120 & 122 West Broadway.
CHAS. ISRAEL & BROS., 486 Canal St.

Kansas City, Mo.

C. C. CLEMENS & Co., 423 Walnut St.

Buffalo, N. Y.

BATTERSON & Co., 167 & 169 Scott St.

Hamilton, Ills.

CHAS. DADANT & SON.

Philadelphia, Pa.

WM. A. SELSER, 10 Vine St.

Cleveland, Ohio.

WILLIAMS BROS., 80 & 82 Broadway.

St. Louis, Mo.

WESTCOTT COM. CO., 213 Market St.

Minneapolis, Minn.

S. H. HALL & CO.

Milwaukee, Wis.

A. V. BISHOP & CO.

Boston, Mass.

E. E. BLAKE & Co., 57 Chatham Street.

Detroit, Mich.

M. H. HUNT, Bell Branch, Wayne Co., Mich.

Indianapolis, Ind.

WALTER S. POWDER, 162 Massachusetts Ave.

Albany, N. Y.

CHAS. MCCULLOCH & Co., 380 Broadway.

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BEE-BOOKS

SENT POSTPAID BY

George W. York & Co.,
Chicago, Ills.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—This edition has been largely re-written, thoroughly revised, and is "fully up with the times" in all the improvements and inventions in this rapidly-developing pursuit, and presents the apiarist with everything that can aid in the successful management of an apiary, and at the same time produce the most honey in an attractive condition. It contains 250 pages, and 245 illustrations—is beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, \$1.00.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture, has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 530 pages; bound in cloth. Price, postpaid, \$1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 400 pages; bound in cloth and fully illustrated. Price, postpaid, \$1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of Queen-Bees are reared in perfect accord with Nature's way. 176 pages, bound in cloth, and illustrated. Price, \$1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopaedia of 400 pages, describing everything pertaining to the care of the honey-bees. It contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, \$1.25.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is too well known to need further description of his book. He is a practical and entertaining writer. You should read his book. 90 pages, bound in paper, and illustrated. Price, 50 cts.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages; bound in cloth, \$1.25; in paper covers, \$1.00.

Bienen-Kultur, by Thomas G. Newman.—This is a German translation of the principle portion of the book called **BEES OF HONEY**. 103-page pamphlet. Price, 40 cents.

Convention Hand-Book, for Bee-Keepers, by Thomas G. Newman.—It contains the parliamentary law and rules of order for Bee-Conventions—also Constitution and By-Laws, with subjects for discussion, etc. Cloth, gold-lettered. Price, 25 cts.

Thirty Years Among the Bees, by Henry Alley.—Gives the results of over a quarter-century's experience in rearing queen-bees. Very latest work of the kind. Nearly 100 pages. Price, 50c.

Why Eat Honey?—This Leaflet is intended for FREE distribution, to create a Local Market. 100 copies, by mail, 40 cts.; 500 for \$1.50; 1000, \$2.50. If 500 or more are ordered at one time, your name and address will be printed on them FREE.

How to Keep Honey and preserve its richness and flavor. Price same as Why Eat Honey.

Apiary Register, by Thos. G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, \$1.00; for 100 colonies, \$1.25.

Preparation of Honey for the Market, including the production and care of comb and extracted honey. A chapter from **BEES AND HONEY**. Price, 10 cents.

Bee-Pasturage a Necessity.—This book suggests what and how to plant. It is a chapter from **BEES AND HONEY**. Price, 10 cents.

The Hive I Use, by G. M. Doolittle. It details his management of bees, and methods of producing comb honey. Price, 5 cents.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cts.

Dictionary of Apiculture, by Prof. John Phil. Gives the correct meaning of nearly 500 apicultural terms. Price, 50 cts.

Winter Problem in Bee-Keeping, by G. B. Pierce. Result of 25 years' experience. 50 cts.

Handling Bees, by Chas. Dadant & Son.—A Chapter from Langstroth Revised. Price, 8 cts.

Bee-Keepers' Directory, by H. Alley.—Latest methods in Queen-Rearing, etc. Price, 50c.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 25 cts.

History of Bee-Associations, and Brief Reports of the first 20 conventions. Price, 15 cts.

Honey as Food and Medicine, by T. G. Newman.—A 32-page pamphlet: just the thing to create a demand for honey at home. Should be scattered freely. Contains recipes for Honey-Cakes, Cookies, Puddings, Foam, Wines, and uses of honey for medicine.

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Emerson Binders, made especially for the **BEE JOURNAL**, are convenient for preserving each number as fast as received. Not available to Canada. Price, 75 cts.

Commercial Calculator, by C. Ropp.—A ready Calculator, Business Arithmetic and Account-Book combined in one. Every farmer and business man should have it. No. 1, bound in water proof leatherette, calf finish. Price, 40 cts. No. 2, in fine artificial leather, with pocket, silicate slate, and account-book. Price, 60 cts.

Green's Four Books, by Chas. A. Green.—Devoted to, 1st, How We Made the Old Farm Pay; 2nd, Peach Culture; 3rd, How to Propagate Fruit-Plants, Vines and Trees; 4th, General Fruit Instructor. Nearly 120 pages. Fully illustrated. 25 cts.

Green's Six Books on Fruit-Culture, by Chas. A. Green.—Devoted 1st, to Apple and Pear Culture; 2nd, Plum and Cherry Culture; 3rd, Raspberry and Blackberry Culture; 4th, Grape Culture; 5th, Strawberry Culture. 129 pp.; illustrated. 25 cts.

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Maple Sugar and the Sugar Bush, by Prof. A. J. Cook.—Full instructions. Price, 35 cts.

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Capon and Caponizing, by Dr. Sawyer. Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 30 cts.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 30 cts.

Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about the Poultry Business. 64 pages. Price, 25 cts.

Turkeys for Market and Turkeys for Profit, by Fanny Field.—All about Turkey-Raising. 64 pages. Price, 25 cts.

Rural Life.—Bees, Poultry, Fruits, Vegetables, and Household Matters, 100 pages. 25 cts.

Potato Culture, by T. B. Terry.—It tells how to grow them profitably. Price, 40 cts.

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The following clubbing prices include the American Bee Journal one year with each book named. Remember, that only ONE book can be taken in each case with the Bee Journal a year at the prices named. If more books are wanted, see postpaid prices given with

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32. Apiary Register (for 50 colonies).....	1.75
33. Apiary Register (for 100 colonies).....	2.00
34. Bee-Keepers' Directory.....	1.30

Convention Notices.

TENNESSEE.—The next annual meeting of the East Tennessee Bee-Keepers' Association will be held at Sneedville, Tenn., on September 18, 1896. All persons interested in bee-culture are cordially invited to attend.
Luther, Tenn. JOHN M. SMITH, Asst. Sec.

TEXAS.—The third annual convention of the Southwest Texas Bee-Keepers' Association will be held at Beeville, Tex., on Sept. 16 and 17, 1896. All are invited. No hotel bills to pay. Low rates on railroads.
Beeville, Tex. J. O. GRIMSLEY, Sec.

MINNESOTA.—The annual meeting of the Southern Minnesota Bee-Keepers' Association will be held in Winona, on September 24 and 25, 1896, at 9 o'clock, a.m. All that feel in any way interested in bees or honey are cordially invited to attend.
Winona, Minn. E. C. CORNWELL, Sec.

WISCONSIN.—The annual meeting of the Southwestern Wisconsin Bee-Keepers' Association will be held at Wausau, Wis., Oct. 7 and 8, 1896. All that are interested in apiculture are invited to attend, and especially those that want a foul brood law to protect their bees from this dread disease. Our committee is working hard to get every bee-keeper interested, and we should all feel it is for our interest to help get a State law to protect our bees. Many of our prominent bee-keepers of the State have promised to be at our meeting, and no one can afford to miss it.
Boscobel, Wis. M. M. RICE, Sec.

North American Bee-Keepers' Association

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I ARISE



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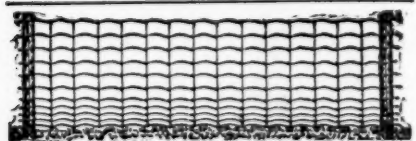
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Our trade was never so large in these as now; and Commission Men tell us that Comb Honey in our Cases brings

BETTER PRICES

than some of the Cases made by competitors. The fact is, we know the demands of the trade, and are prepared to supply them. Remember, home-made or poorly made Cases are dear at any price. Honey in such Cases always brings several cents below the market price.

If you wish to get **GILT-EDGE PRICES** on **GILT-EDGE HONEY** put it up in

Root's Non-Drip Shipping-Cases.

THE A. I. ROOT COMPANY,

Factory and Main Office, **MEDINA, O.**

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Mechanic Falls, Maine.